

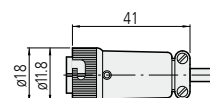
10 / 25 / 50mm range, 0.5 / 1 / 5 μ m resolution, Differential square-wave output.

FEATURES

- Excellent protection against dust ingress and water splash (IP66) in harsh shop-floor environments.
- Uses linear stroke ball bearings on the spindle movement for resistance to external shock and vibration.
- Thrust Stem with a clamp nut is optional.

Connector

Unit: mm



Dimensions

Unit: mm

542-171: 0.5 μ m resolution, 10mm range model

542-161: 1 μ m resolution, 10mm range model

542-172: 0.5µm resolution, 25mm range model

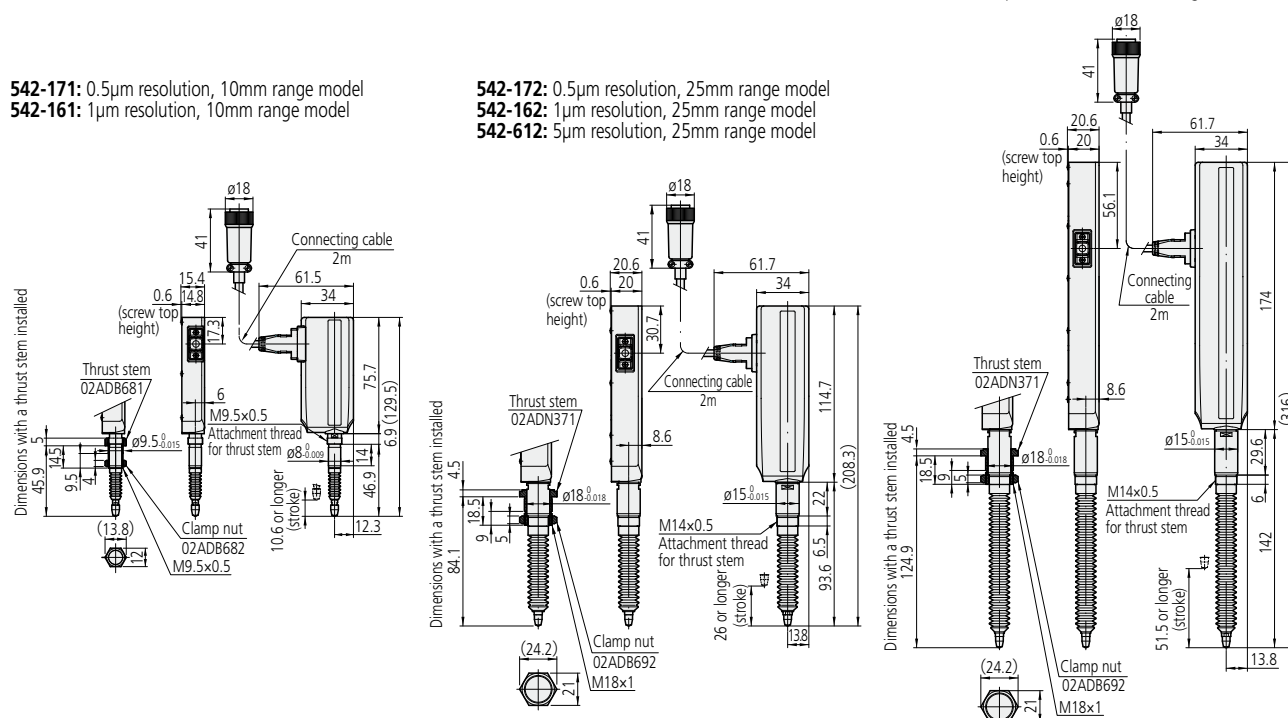
542-162: 1 μ m resolution, 25mm range mode

542-612: 5µm resolution, 25mm range model

542-173: 0.5 μ m resolution, 50mm range model

542-163: 1 μ m resolution, 50mm range model

542-613: 5 μ m resolution, 50mm range model



SPECIFICATIONS

Order No.	542-171	542-161	542-172	542-162	542-612	542-173	542-163	542-613
Measuring range	10mm		25mm			50mm		
Resolution	0.0005mm	0.001mm	0.0005mm	0.001mm	0.005mm	0.0005mm	0.001mm	0.005mm
Accuracy (20°C)*1	(1.5+L/50)μm for 0.5μm / 1μm model, (7.5+L/50)μm for 5μm model (L=mm)							
Measuring force	Spindle DOWN	1.2N or less		4.6N or less			5.7N or less	
	Horizontal	1.1N or less		4.3N or less			5.3N or less	
	Spindle UP	1.0N or less		4.0N or less			4.9N or less	
Position-detection method	Transmission-type photoelectric linear encoder*4							
Max. response speed*2	1500mm/sec							
Output signal	90° phase difference, differential square wave (RS-422A equivalent); minimum edge intervals 250ns for 0.5μm model, 500ns for 1μm model, 1000ns for 5μm model,							
Signal pitch	4μm	2μm	4μm	2μm		4μm	2μm	
Mass	250g		300g			400g		
Dust/water protection*3	IP66							
Contact point	ø3mm carbide (mounting: M2.5x0.45) 901312							
Stem size	ø8mm		ø15mm					
Bearing type	Linear ball bearing*5							
Connecting cable length	2m							
Connector	Plug used: RM12BPE-6PH (HIROSE), Compatible socket: RM12BRD-6S (HIROSE)							
Operating environment	0°C to 40°C (20%RH to 80%RH, without condensation)							
Standard accessory	Wrench for contact point (538610)		Wrench for contact point (210187)					
Optional accessories	238772 : 10mm rubber boot (spare)		962504 25mm rubber boot (spare)			962505 50mm rubber boot (spare)		
	02ADB680 : Thrust stem and wrench set		02ADN370 : Thrust stem and wrench set					
	02ADB683 : Thrust stem rench		02ADN693 : Thrust stem wrench					

*1: Excluding quantizing error of +1 count

*2. When the travel speed of spindle exceeds 1500mm/s (400mm/s for the case of 0.1μm model), an alarm signal will be output and an error display will result if any Mitutoyo counter is used. For the method of making use of alarm signals where any Mitutoyo counter is not used refer to Page 30. However, note that the spindle's free travel may exceed the given speed limit to cause an error if the contact point is released quickly after it has been pressed in, depending on the amount of over-travel produced.

*3: IP level is the standard of protection against the ingress of solids/foreign matter and water. This may not be applicable for liquids other than water

*4: Patent registered (Japan, U.S.A., Germany, U.K.)

*5: Patent registered (Japan)